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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,886	07/20/2004	Kenichi Kajiwara	042599	6566

38834 7590 02/09/2006

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EXAMINER

NGUYEN, NINH H

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/501,886

Applicant(s)

KAJIWARA ET AL.

Examiner

Ninh H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/20/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figures 5 and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Erickson (4,278,399).

Erickson discloses an impeller (Fig. 2) having a disk-like main plate 31, a blade 31b joined to the main plate, and a side plate (shown at bottom of blade 31b; Fig. 2) having a suction

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port, a boss hole is formed in a central portion of the main plate for attaching a boss which engages with a pump shaft to the boss hole, wherein a step portion is formed around the boss holed which is formed in the main plate (Fig. 2).

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (6,685,433).

Kim discloses an impeller (Fig. 5) having a disk-like main plate 201, a blade 202 joined to the main plate, and a side plate 203 having a suction port, a boss hole is formed in a central portion of the main plate for attaching a boss which engages with a pump shaft to the boss hole, wherein a step portion is formed around the boss holed which is formed in the main plate (Fig. 5).

5. Claims 3 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Deters (3,265,001).

Deters discloses an impeller 28 (Fig. 2) having a disk-like main plate 40, a blade 44 joined to the main plate, and a side plate 42 having a suction port, a radially inner end portion of the blade which is joined to the main plate is rounded near a portion at which the blade is joined to the main plate (Fig. 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson.

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Erickson discloses all the limitations except the when a plurality of main plates are piled on one another, a gap formed by step portions of adjacent main plates is not in a range of 0.3mm to 0.4mm as claimed.

Since the applicant has not disclosed that having the gap being set in the range of 0.3mm to 0.4 mm solves any stated problem or is for any particular purpose above the fact that the gap is formed when a plurality of main plates, each with a step portion formed around the boss hole, stacked one on top of another, and it appears that the impeller of Erickson would perform equally well with the shape and dimensions as defined claimed by applicant, it would have been an obvious matter of design choice to modify the impeller of Erickson by utilizing the specific dimensions as claimed.

Prior Art

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure and consists of 3 patents.

Catterfeld (4,428,717) and Herrick (3,884,595) are cited to show pump impellers having blades that are rounded at the location where the blades are attached to the main plates.


Nagai et al. (4,647,271) are cited to show an impeller having a step portion on the main plate at the location of the boss hole.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).


NINH H. NGUYEN
PRIMARY EXAMINER

Nhn
February 6, 2006